

Light Dispersion probe with Type Ia SN observations

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Light dispersion in interstellar medium is a phenomenon well known by observations of pulsars. I suggest the method to measure the light dispersion at cosmological distances using distant Type Ia supernovae.

In order to do that, two filters with the same effective wavelength are needed: one with narrow passing bandwidth and another one with wide passing bandwidth. After taking photometric measurements using both filters the stretching of the two respective light curves should be compared. If the light curve corresponding to the filter with wide bandwidth is stretched more than the other one then it will be possible to assess the light dispersion at cosmological distances. Such measurements can be done for different bands in order to determine the dependency of light dispersion on frequency.